



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,642	07/27/2004	James W. Adkisson	BUR920030194US1	4641
23389	7590	06/30/2006		
SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530			EXAMINER GARBOWSKI, LEIGH M	
			ART UNIT 2825	PAPER NUMBER

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/710,642

Applicant(s)

ADKISSON ET AL.

Examiner

Leigh Marie Garbowski

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-26 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 4, 10, 15, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/03/2004.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the methods and steps recited in claims 1-26 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 4, 10, 15, 23, 24 are objected to because of the following informalities: as per claim 4, there is no antecedent basis for "said analyzing step" [lines 2-3], perhaps

the claim should be dependent upon claim 3? As per claim 10, it is not clear which "analyzing" step [lines 4-6 or lines 14-15] is providing the antecedent basis for "said analyzing step" [line 17]; as per claim 15, the "assembling" step [lines 3-4] provides for "process variation or integrity [line 4], yet the "formulating" step [lines 6-9] only provides for "the process integrity" [line 7], thus, this discrepancy is confusing; also as per claim 15, what is meant by the "analyzing" step [lines 13--15] is not clear because there is no antecedent basis for "test data" [line 13] or "systematic yield problems" [lines 13-14] or "attributes" [line 14], in other words, this step appears to add features to the method that are not apparent from the previously recited steps such that the method seems to take a jump in its flow, as if other steps are perhaps missing.; as per claim 23, the antecedent basis for "the step of assembling scan chain parameters" [lines 1-2] is not clear because claim 15 recites "assembling latch design parameters" [line 3]; and as per claim 24, there is no antecedent basis for "the non-redundant elements" [lines 1-2]. Appropriate correction is required.

Allowable Subject Matter

Claims 1-26 are allowed.

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not disclose, teach, or suggest the methods of designing scan chains as specifically recited in all of the steps of the claimed subject matter.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Huisman et al. [U.S. Patent Application Publication #2005/0138508 A1] disclose scan chain diagnosis including analyzing collected test results and optimizing the design [0037, 0041]. Eustis et al [U.S. Patent #7,007,214 B2] disclose assessing yield by locating defects in defective scan chains [column 7, line 38-column 8, line 17]. Smith et al. [U.S. Patent #6,185,707 B1] disclose a yield manager tool [figures 5 and 10]. Cheng et al. [U.S. Patent #7,036,099 B2] disclose an IC for

locating failure process layers in a scan chain design. Wildes et al. [U.S. Patent #6,651,197 B1] disclose determining optimum locations for scan latches. Huisman et al. [U.S. Patent #6,880,136 B2] disclose clustering analysis for analyzing defects [figure 3]. Beausang et al. [U.S. Patents #6,106,568 and #5,828,579] disclose design for test with hierarchical scan chain architecture. Duggirala et al. [U.S. Patent #6,434,733 B1] disclose placement and routing for scan chains [column 6, line 22-column 7, line 32]. Zorian discloses "Optimizing Manufacturability by Design for Yield." Marinissen et al. disclose "Creating Value Through Test." Bazan et al. disclose "Using Embedded Objects for Yield Monitoring."

Conclusion


This application is in condition for allowance except for the above formal matters.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Marie Garbowski whose telephone number is 571-272-1893 and e-mail is Leigh.garbowski@uspto.gov. The examiner can normally be reached on days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


LEIGH M. GARBOWSKI
PRIMARY EXAMINER

Art Unit: 2825

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.